

PATENT
Serial No. 10/531,976
Amendment in Reply to Office Action mailed on January 23, 2006

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Linear~~ A Linear electric motor or actuator comprising a movable part ~~(21) consisting of comprising a~~ soft-magnetic core ~~22)~~ which supports a set of electrically conductive turns ~~(25)~~, which movable part ~~(21)~~ is slidably supported by a rail ~~(26)~~ which is provided with at least one set of permanent magnets ~~(27, 30, 31)~~, distributed in longitudinal direction along the core's periphery, which magnets produce magnetic fields that cooperate with the set of turns via an air-gap, ~~characterized in that wherein~~ the soft-magnetic core ~~(21)~~ is made of soft-magnetic composite material, in that said electrically conductive turns ~~(25)~~ are wound around the periphery of the core ~~(21)~~ substantially perpendicularly to the central line thereof, and ~~in that wherein~~ at least two sets of permanent magnets ~~(27, 30, 31)~~ are arranged

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along said periphery in longitudinal direction such that the at least two sets of magnets are arranged at different angles to said core, wherein a cross-section of said core of soft-magnetic composite material has a substantially triangular shape.

Claims 2-3 (Canceled)

4. (Currently Amended) ~~Linear~~ The Linear electric motor according to claim 1, ~~characterized in that said rail (26) is provided with further comprising cooling means (32) which extend in the longitudinal direction of the rail and are in heat-exchanging contact with said core (22) and turns (25) over part of their surface.~~

5. (Currently Amended) Linear electric motor according to claim 1, ~~characterized in that wherein said core (22) is provided with internal cooling channels.~~

6. (Currently Amended) ~~Linear~~ The Linear electric motor according to claim 1, ~~characterized in that wherein said core (22)~~

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is provided with circumferential slots in which said turns can be located, said slots having a body portion in communication with said core and end portion in communication with said body portion, said top portion being wider than said body portion.

7. (New) A linear electric motor comprising:
a movable part including a magnetic core and conductors surrounding said magnetic core;
a rail configured to slideably support said movable part; and
a magnet substantially surrounding said movable part;
wherein a cross-section of said movable part and said magnet has a substantially triangular form.

8. (New) The linear electric motor of claim 7, wherein one apex of said substantially triangular form is eliminated.

9. (New) The linear electric motor of claim 7, wherein said magnetic core includes circumferential slots formed by a body portion between said magnetic core and a top portion, said top portion being wider than said body portion.

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10.(New) The linear electric motor of claim 7, further comprising cooling means which extend in a longitudinal direction of the rail.

11.(New) The linear electric motor of claim 7, wherein said magnetic core includes internal cooling channels.